

Applicant: Shunsuke Takada  
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**REMARKS**

**Claims**

Claims 1-5 were pending in the above-identified application. By this Amendment, applicant has amended claims 1, 2, and 3. Accordingly, upon entry of this Amendment, claims 1-5 will be pending and under examination.

Support for amended claim 1 may be found inter alia in the English language translation of the specification, filed April 18, 2002, at page 2, lines 6-11; page 3, lines 12-13; page 3, line 17 through page 4, line 12; page 6, lines 10-14; page 6, line 15 through page 7 line 2; and page 9, lines 20-24. Support for amended claim 2 may be found at page 2, lines 6-11; page 3, lines 12-13; page 3, line 17 through page 4, line 12; page 6, lines 10-14; page 6, line 15 through page 7 line 2; and page 9, lines 20-24. The language of claim 3 was amended to provide more clarity to the claim, and no new elements or subject matter were introduced to the claim; thus, support for amended claim 3 may be found in original claim 3 of the English language translation of the application, filed April 18, 2002. Accordingly, applicant maintains the amendments to the claims raise no issue of new matter, and request entry of these Amendments.

**Drawings**

In the June 5, 2003 Office Action, the Examiner objected to the drawings under 37 C.F.R. 1.83(a) and stated that the drawings must show every feature of the invention specified in the claims. Therefore, the Examiner alleged, the j- or u- shaped bodies must be shown or the feature(s) canceled from the claim(s). The Examiner further stated that no new matter should be entered, and that a proposed drawing or correction or corrected drawings are required in reply to the Office Action to avoid abandonment of the application.

In response, applicant submits one page of drawings, containing two figures, Figure 6 and Figure 7 as **Exhibit A**. Figure 6 shows the u-shaped bodies, and Figure 7 shows

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the j-shaped bodies. Support for Figure 6 may be found, *inter alia*, in the English language translation of the specification, filed April 18, 2002, at page 6, line 15 through page 7, line 2; and page 9, lines 20-24. Accordingly, applicant has complied with the Examiner's instructions, and respectfully requests that the Examiner reconsider and withdraw this ground of objection.

**Oath/Declaration**

In the June 5, 2003 Office Action, the Examiner alleged that the oath or declaration is defective because it does not identify the citizenship of each inventor. The Examiner stated that a new oath or declaration in compliance with 37 C.F.R.(a) identifying this application by application number and filing date is required.

In response, applicant informs the Examiner that applicant is in the process of obtaining a new oath or declaration which identifies the inventor's citizenship. Upon receipt of this new oath or declaration, applicant will immediately forward it to the United States Patent and Trademark Office.

**Rejection Under 35 U.S.C. §102(b)**

In the June 5, 2003 Office Action, the Examiner rejected claims 1 and 2 under 35 U.S.C. §102(b) as allegedly anticipated by Hofmann (U.S. Patent No. 4,620,929, the "Hofmann patent").

In response, applicant respectfully traverses the Examiner's rejection. However, without conceding the correctness of the Examiner's position, but in order to expedite prosecution, applicant has hereinabove amended claims 1 and 2 to more clearly claim the subject matter.

To anticipate the method of claim 1, or the apparatus of amended claim 2, the Hofmann patent would have to teach each and every element thereof. Applicant respectfully

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points out that it does not. Specifically, the Hofmann patent fails to teach an elongated, closed water channel comprised of a plurality of cylinders connected in series by a j or u-shaped tube in between adjacent cylinders. Instead, the invention of the Hofmann patent consists of a single container which contains two filter chambers. Amended claim 1 teaches a method of purifying water comprising, in part, a step in which contaminated waste water is caused to flow through an inlet into an elongated, closed water channel comprised of a plurality of cylinders connected in series by a j or u-shaped tube in between adjacent cylinders. Similarly, amended claim 2 teaches a water purifying apparatus comprising a closed water channel, wherein the closed water channel is comprised of a plurality of cylinders connected in series by a j or u-shaped tube in between adjacent cylinders.

Accordingly, applicant maintains the cited reference does not anticipate applicant's claimed invention, and respectfully requests that the Examiner reconsider and withdraw this ground of rejection.

**Rejection Under 35 U.S.C. §102(e)**

The Examiner rejected claims 1 and 2 under 35 U.S.C. §102(e) as allegedly anticipated by Tipton et al. (U.S. Patent No. 6,413,427 B2, the "Tipton patent").

In response, applicant respectfully traverses the Examiner's rejection. However, without conceding the correctness of the Examiner's position, but in order to expedite prosecution, applicant has amended claims 1 and 2 to more clearly claim the subject matter.

To anticipate the method of claim 1, or the apparatus of amended claim 2, the Tipton patent would have to teach each and every element thereof. Applicant respectfully points out that it does not. Specifically, the Tipton patent fails to teach an elongated, closed water channel comprised of a plurality of cylinders connected in series by a j or

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u-shaped tube in between adjacent cylinders. Instead, the invention of the Hofmann patent consists of a single container which contains two filter chambers, one of which appears to contain an inverted cone. Amended claim 1 teaches a method of purifying water comprising, in part, a step in which contaminated waste water is caused to flow through an inlet into an elongated, closed water channel comprised of a plurality of cylinders connected in series by a j or u-shaped tube in between adjacent cylinders. Similarly, amended claim 2 teaches a water purifying apparatus comprising a closed water channel, wherein the closed water channel is comprised of a plurality of cylinders connected in series by a j or u-shaped tube in between adjacent cylinders.

Accordingly, applicant maintains the cited reference does not anticipate applicant's claimed invention, and respectfully requests that the Examiner reconsider and withdraw this ground of rejection.

#### **Rejection Under 35 U.S.C. §103(a)**

The Examiner rejected claims 3 and 4 under 35 U.S.C. §103(a) as allegedly unpatentable over either the Hofmann patent or the Tipton patent in view of Rhee (U.S. Patent No. 5,674,389, the "Rhee patent"). The Examiner further rejected claims 3 and 5 as allegedly unpatentable over either the Hofmann patent or the Tipton patent in view of Perry (U.S. Patent No. 1,628,510, the "Perry patent").

In response to the Examiner's rejections, applicant respectfully traverses, and maintains that the Examiner has failed to establish a *prima facie* case of obviousness.

To establish a *prima facie* case of obviousness, the Examiner must demonstrate three things with respect to each claim. See Manual of Patent Examining Procedure § 2142,

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under the heading "Establishing a *Prima Facie* Case of Obviousness." First, there must have been some motivation to one of ordinary skill in the art to combine the references. Second, there must have been a reasonable expectation of success. And third, the prior art references, when combined, must teach or suggest every element of the claim.

Applicant maintains that the cited references fail to support a *prima facie* case of obviousness for the reasons set forth below.

#### The Rhee Patent

Applicant asserts that the Rhee patent in combination with either the Hofmann patent or the Tipton patent fails to suggest either the motivation for developing the instant method or a reasonable expectation that such method would succeed. The Rhee patent teaches an impurity removal system designed especially to remove tetrachloroethylene from water. The Rhee patent describes a system of *chemical* filtration, in which tetrachloroethylene is adsorbed into a substrate. Contrariwise, claims 3 and 4 of the instant application teach an apparatus to be used for aerobic/anaerobic (i.e. *biological*) filtration wherein ammonia waste present in water is first broken down and nitrified by aerobic bacteria, and the resulting product is then denitrified by anaerobic bacteria. Nowhere in the Rhee patent is there any suggestion to apply the teachings of the described tetrachloroethylene removal system to a waste water filtration system that includes aerobic and anaerobic bacterial degradation of wastes.

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The Perry Patent

Applicant asserts that the Perry patent in combination with either the Hofmann patent or the Tipton patent fails to suggest either the motivation for developing the instant method or a reasonable expectation that such method would succeed. The Perry patent teaches an apparatus for filtering and purifying water by filtration through charcoal to adsorb impurities. Claims 3 and 5 of the instant application, however, teach an apparatus wherein ammonia waste present in water is first broken down and nitrified by aerobic bacteria, and the resulting product is then denitrified by anaerobic bacteria. The Perry patent teaches nothing pertaining to treatment of waste with aerobic and anaerobic bacteria. Neither does the Perry patent contain any suggestion to apply its teachings to the invention described in claims 3 and 5. For these reasons, there would be no motivation to combine the references as Examiner has done and even if so combined, the references would not render obvious the claimed invention.

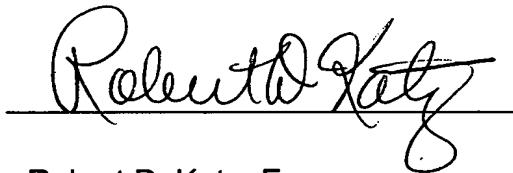
In view of the preceding remarks, applicant maintains that the rejected claims define an invention not obvious from the cited references, and therefore not properly rejected under 103(a), and respectfully request that Examiner reconsider and withdraw these grounds of rejection.

If a telephone interview would be of assistance in advancing prosecution of the subject application, applicant's undersigned attorneys invite the Examiner to telephone them at the number provided below.

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No fee, other than the enclosed amount of \$210.00 for a two-month extension of time, is deemed necessary in connection with the filing of this Amendment. However, if an additional fee is required, authorization is hereby given to charge the amount of any such fee to Deposit Account No. 03-3125.

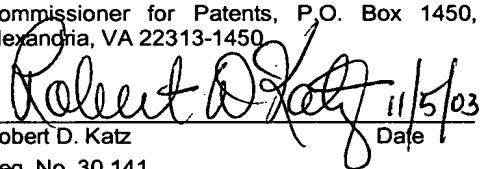
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